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MODEL 4005-04-0-C0965A
RACK ADAPTER

MP MASTER



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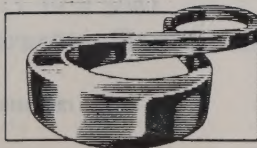
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INSTRUCTION MANUAL



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The information in this manual includes a physical and electrical description, installation instructions, and maintenance information pertaining to the rack adapter. For information concerning the EMR 400-Series modular signal processor installed in the rack adapter, refer to the appropriate instruction manual.

1.1 PHYSICAL DESCRIPTION

The rack adapter, shown in Figure 1-1, measures approximately 1-1/4 inches at panel height in a standard 1-inch equipment rack. The rack depth required is 14 inches and allows any rear-panel components extending beyond the rack adapter side-mounting plates.

The interior of the rack adapter is divided into 11 modular insert bays, each 2-1/16 inches wide. The EMR 400-Series equipment is designed to be mounted in the rack adapter in an integral manner with the rack adapter. Thus, any number of units up to 11 can be accommodated. For the type and position of the units in the rack adapter, refer to Figure 1-2.

The modular units are guided into the proper position by guides located on the interior surface of the rack adapter. Insertable, fiber-mounted wiring connectors are provided at the rear of each modular-unit location to complete the electrical connections. A push-to-lock stud on the modular-unit front panel secures the unit in the assigned location.

The rack adapter rear-panel configurations are variable depending on the particular rack adapter design required. A rear-panel view for the appropriate rack adapter is provided in Figure 1-3.

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SECTION 1

GENERAL DESCRIPTION

1.1 INTRODUCTION

This manual contains information describing the EMR Model 4005 Rack Adapter. The rack adapter is designed as an adapter unit used to mount the EMR 4000-Series modular ground equipment in a standard 19-inch equipment rack.

The information in this manual includes a physical and electrical description, installation instructions, and maintenance information pertinent to the rack adapter. For information describing the EMR 400-Series modular ground equipment installed in the rack adapter, refer to the appropriate instruction manual.

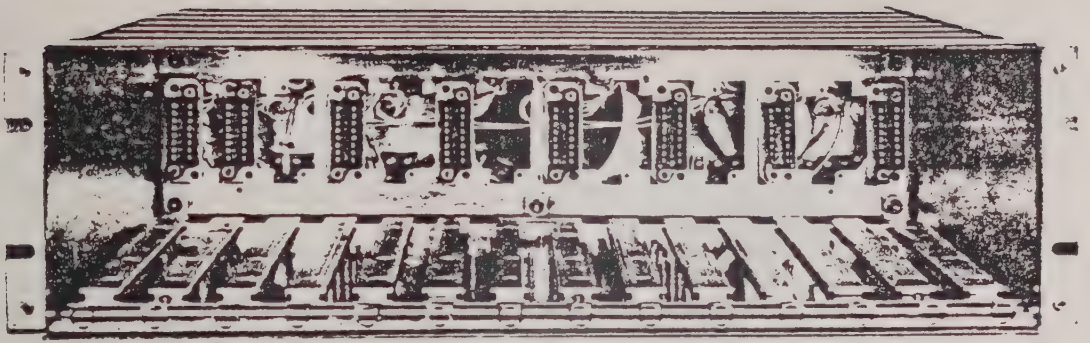
1.2 PHYSICAL DESCRIPTION

The rack adapter, shown in Figure 1-1, occupies approximately 5-1/4 inches of panel height in a standard 19-inch equipment rack. The rack depth required is 21 inches excluding any rear-panel components extending beyond the rack adapter side-mounting plates.

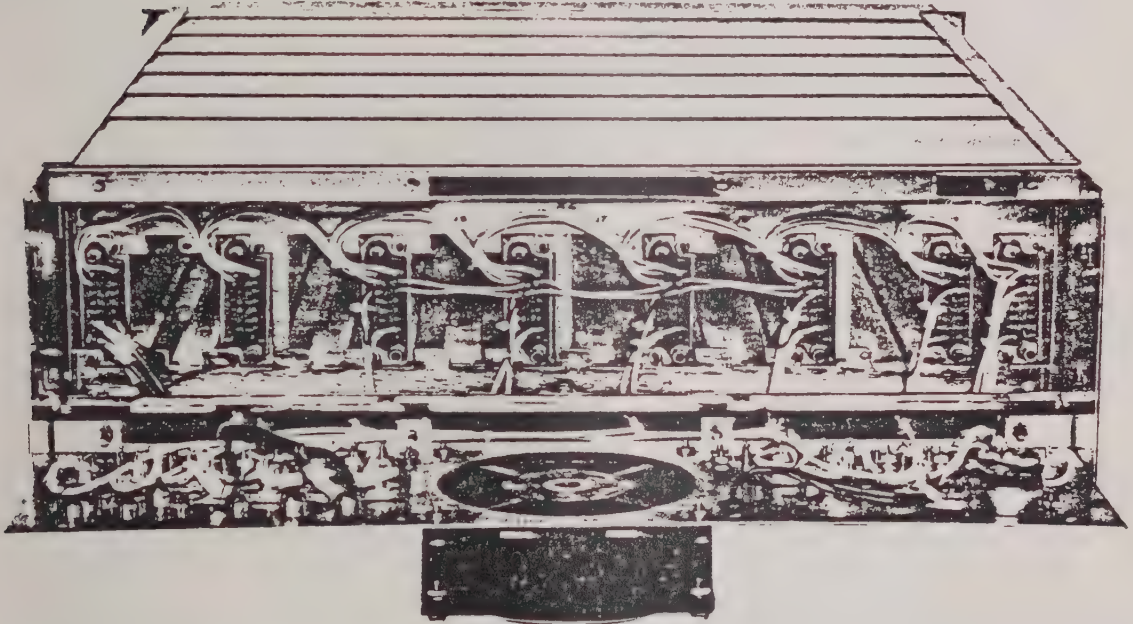
The interior of the rack adapter is divided into 14 modular increments, each 1-7/32 inches wide. The EMR 400-Series equipment to be mounted in the rack adapter is an integral multiple of this measurement. Thus, any number of units up to 14 can be accommodated. For the type and position of the units in the rack adapter, refer to Figure 3-2.

The modular units are guided into the proper location by T-rails mounted on the bottom surface of the rack-adapter interior. Float-mounted mating connectors are provided at the rear of each modular-unit location to complete the electrical connections. A push-to-lock knob on the modular-unit front panel secures the unit in the assigned location.

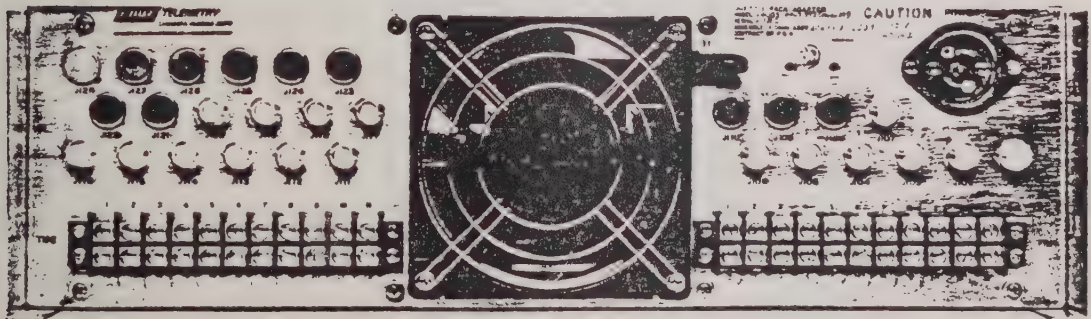
The rack adapter rear-panel configurations are variable depending on the particular rack adapter design sequence. A rear-panel view for the appropriate rack adapter is provided in Figure 3-2.



a. Internal Front View of Standard 4005



b. Internal Rear View of Standard 4005 with Rear Panel Lowered



c. Rear Panel Layout of Standard 4005

Figure 1-1. EMR Model 4005 Rack Adapter

1.3 ELECTRICAL DESCRIPTION

The rack adapter is factory wired to accept a particular group of modular equipment. (An exception to this is the Model 4005-01. This unit contains no internal wiring and may be field wired to accept the desired modular group.) A 16-pin connector on each modular unit mates with a receptacle in the rack adapter interior. These receptacles are then wired to appropriate connectors mounted on the rack adapter rear-panel. A diagram illustrating this wiring is provided at the end of Section 3. The diagram lists the type and number of external connections terminated at the rack adapter rear-panel connectors and contains a functional block diagram that show the signal flow between individual units within the rack adapter.

SECTION 2

INSTALLATION

2.1 GENERAL

The EMR Model 4005 Rack Adapter is a self-contained unit ready for installation in a standard 19-inch equipment rack. Any shortage or damage to the unit should be reported in accordance with the instructions of the EMR Purchase Order Acknowledgment (POA).

2.2 MOUNTING

The rack adapter physical dimensions and mounting requirements are illustrated in Figure 2-1. To mount the rack adapter in the equipment rack, install the mounting hardware through the four indentations in the front panel and four feedthrough holes on the rear side panels. The mounting hardware for this installation is provided with each rack adapter.

In mounting the modular units in the rack adapter (see Figure 3-2), align the unit on the T-rails and slide straight in. Once in position, depress the push-to-lock knob on the modular unit front panel. To remove the modular unit, release the push-to-lock knob, pulling straight out, and extract the modular unit.

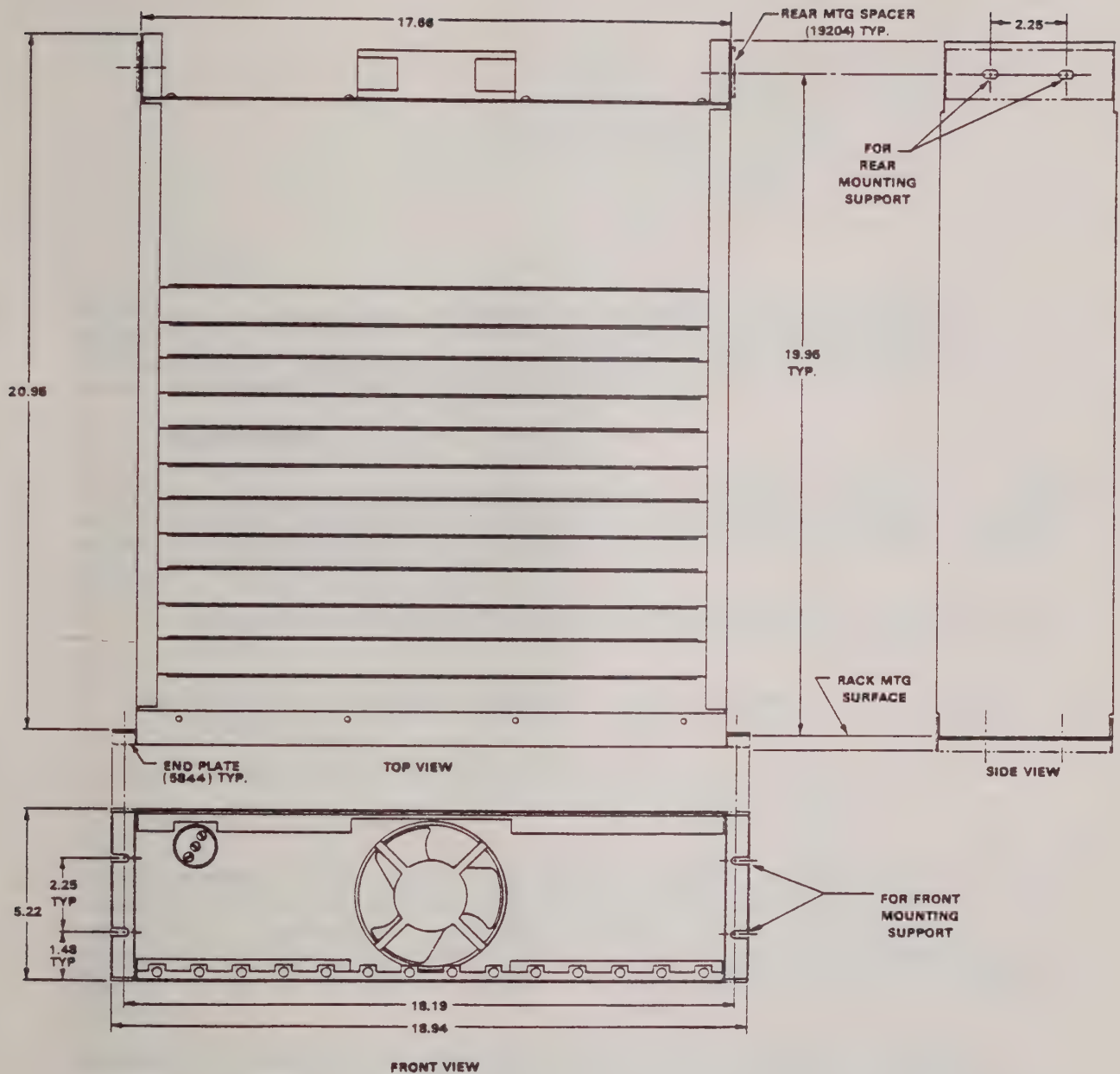
After the rack adapter installation and modular-unit installation, complete the external electrical connections at the rack adapter rear-panel connectors. Information pertinent to the external connections is provided in Figure 3-2.

2.3 COOLING

The rack adapter with the modular units installed is a completely enclosed structure. Cooling for the modular units is provided by an internal Rotron Muffin venturi blower mounted vertically on the rack adapter rear-panel. This blower is designed for adequate cooling of any number and type of EMR 4000-Series modular units installed in the rack adapter.

CAUTION

Ensure that, when primary power is applied to the modular units, the cooling blower is operating. A blower failure will result in overheating and damage to the modular units.



NOTES:

1. ALL DIMENSIONS FOR REFERENCE ONLY.

Figure 2-1. Rack Adapter Physical Dimensions
(for Serial No's. 193 and Up)

SECTION 3

MAINTENANCE

3.1 GENERAL

This section provides information to aid in troubleshooting and maintaining the Model 4005 Rack Adapter. The rack adapter is maintained by performing the inspection and troubleshooting procedures outlined in paragraphs 3.2 and 3.3.

3.2 INSPECTION

The Model 4005 should be subjected to a regular inspection program as a means of preventive maintenance or, if a malfunction occurs, to aid in isolating the trouble. The inspection program should include the following:

- a. Inspect rear-panel connectors for loose or broken connections.
- b. Inspect internal receptacles for loose or broken connections.
- c. Inspect T-rails for proper mounting.

3.3 TROUBLESHOOTING

Troubleshooting the Model 4005 Rack Adapter is limited to a continuity test or wiring between the internal receptacles and the rear-panel connectors. Access to the wiring is obtained by removing the upper and lower mounting screws in the rear panel. The rear panel is then pivoted downward exposing the rack adapter interior.

Troubleshooting of the modular equipment mounted in the rack adapter is accomplished by using the EMR Model 4601 Test Adapter. The test adapter allows a modular unit to be removed from the rack adapter for test and access to individual assemblies and components of the modular units.

3.3.1 Model 4601 Test Adapter

The Model 4601 Test Adapter, shown in Figure 3-2, permits servicing of the EMR 4000-Series modular units while extended from the rack adapter. The main chassis (one modular width) contains a 16-pin connector which plugs into the appropriate mating receptacle in the rack adapter interior. An inter-connecting cable contains a plug chassis which plugs into the modular unit being serviced. Test points are located on the side of the plug chassis permitting access to signals at terminals on the modular unit rear connector.

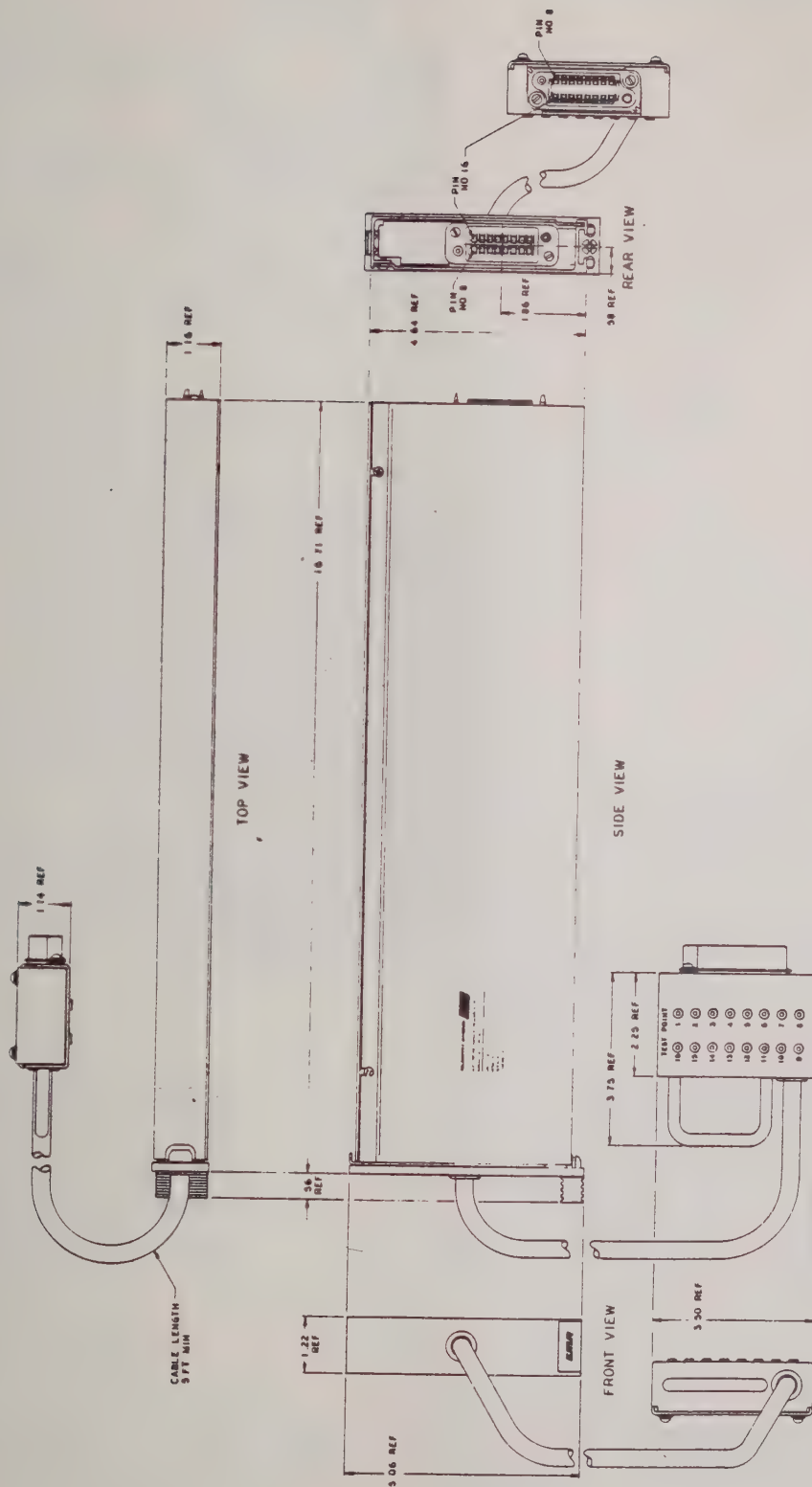
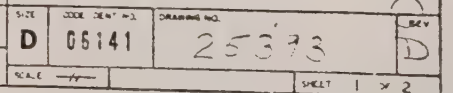
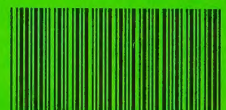


Figure 3-1. EMR Model 4601 Test Adapter





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